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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,387

07/13/2007

Gianni Candio

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ASHEVILLE, NC 28801

EXAMINER

AHN, JEANNIE MINA

ART UNIT

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11/10/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,387	<b>Applicant(s)</b> CANDIO ET AL.	
	<b>Examiner</b> JEANNIE AHN	<b>Art Unit</b> 4137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/30/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "...according to claim 1" (Page 3, line 12). Applicant cannot refer to claims in the specification.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: suction coupling (Page 9 Line 2—26). The applicants claim that "said coupling element for connection to a suction pipe is constituted by a suction coupling" in claim 7. However, "suction coupling" is not discussed in the specification.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: delivery coupling (Page 9 Line 2—26). The applicants claim that "said coupling element for connection to a suction pipe is constituted by a suction coupling" in claim 9. However, "delivery coupling" is not discussed in the specification.

2. The disclosure is objected to because of the following informalities: "two different types of suction head" (Page 3, line 16). "Head" should be in the plural form as "heads."

Appropriate correction is required.

The disclosure is objected to because of the following informalities: "two different types of delivery head" (Page 3, line 16-17). "Head" should be in the plural form as "heads."

Appropriate correction is required.

### *Drawings*

#### **INFORMATION ON HOW TO EFFECT DRAWING CHANGES**

##### **Replacement Drawing Sheets**

Drawing changes must be made by presenting replacement sheets which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments section, or remarks, section of the amendment paper. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). A replacement sheet must include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and within the top margin.

##### **Annotated Drawing Sheets**

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheet(s) must be clearly labeled as "Annotated Sheet" and must be presented in the amendment or remarks section that explains the change(s) to the drawings.

##### **Timing of Corrections**

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figure 1 is composed of five figures (1 compressor body, 2 suction heads,

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and 2 delivery heads. Each figure must include a label, such as Figure 1(a), 1(b), etc. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Evidence that claim 1 fails to particularly point out and distinctly claim the invention. In the specification, the applicants have stated "[configuration 50] involves the installation, on the suction side of the compressor body 3, of a head 7..." (Page 4, line 27-28), and this statement indicates that the invention is different from what is defined in the claim because the claim states "manufacturing a first suction head" (page 6, line 12). Although the applicants claim the manufacture of parts of the compressor, they describe the installation of parts to assemble a compressor in the specification.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne (US Patent 2668004) in view of Olofsson (US Patent 3407996).

In regard to claim 1, the term “manufacturing” will be assumed to mean providing. Since the parts are replaceable, a replacement part is considered a second suction and delivery head. Although each part can be replaced in the same location, they are separate. Olofsson (3407996) teaches volumetric compressors (1 and 2) comprising of a pair of rotors (12 and 13) cooperating with each other and housed in a compressor body (3). Compressor body (3) has a flange (35) and compressor body (11) has a flange (38). The flanges (35, 38) can be fitted with counterflanges (41, 36). However, Olofsson focuses on the interchangeability of the parts, which encompasses suction and delivery heads, to the motor, and does not teach the details of the suction and delivery parts.

Browne teaches a volumetric compressor (Fig. 1) with a suction head (270) comprising a coupling element (440) to a suction pipe (266). The suction head (270) is connected to a motor unit (32) by the suction pipe (266). The delivery head (260), which delivers the compressed air product out of the compressor to another phase, comprises of a coupling element (262) to a delivery pipe (not labeled: Figure 1, between the cylinder head (180) and the outlet connection

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(262). The delivery head (260) is also connected to an oil separator (326) since the apparatus is integral. Moreover, the compressor has coupling elements on the suction side and the delivery side of the compressor.

It would have been obvious to a person of ordinary skill in the art to apply suction and delivery pipes, valves, and coupling elements to a compressor with interchangeable parts. In order for the compressor body to function, it must have suction and delivery parts. Since pipes are usually a way of passage, air or fluid must pass through pipes to reach the compressor. The pipes must be attached to the compressor body with some forms of couplings. Moreover, flanges are commonly used to join two parts together, so it is obvious to a person of ordinary skill in the art to join the various parts of a compressor with flanges. Therefore, it is obvious to a person of ordinary skill in the art to modify Olofsson's compressor with the suction and delivery parts of Browne's compressor.

In regard to claim 2, Browne teaches a volumetric compressor (Fig. 1) with a suction head (270) comprising a coupling element (440) for connection to a suction pipe (266), and a delivery head (260) comprising of a coupling element (262) to a delivery pipe (not labeled: Figure 1, between the cylinder head (180) and the outlet connection (262).

Olofsson does not specifically teach that the suction and delivery heads are connected to the suction and delivery pipes. However, Browne teaches that the suction and delivery heads are coupled to the suction and delivery pipes. In order for compressors to function, the suction and delivery pipes, which carry the air or fluid, must be attached to the compressor body. Therefore, it is obvious to a person of ordinary skill in the art that the suction and delivery heads are coupled to the suction and delivery pipes.

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In regard to claim 3, Browne teaches a volumetric compressor (Fig. 1) with a suction head (270) comprising a coupling element (440) to a suction pipe (266), and the delivery head (262) comprises of a coupling element (262) to a delivery pipe (not labeled: Figure 1, between the cylinder head (180) and the outlet connection (262)) in combination with an oil separator (326).

Olofsson does not specifically teach that a suction head is coupled to a suction pipe and a delivery head coupled to a delivery pipe in combination with an oil separator. However, Browne teaches that a suction head is coupled to a suction pipe and a delivery head coupled to a delivery head in combination with an oil separator. In order for compressors to function, the suction and delivery pipes, which carry the air or fluid, must be attached to the compressor body. Moreover, a person of ordinary skill in the art would know that most compressors comprise of an oil separator. Therefore, it is obvious to a person of ordinary skill in the art to couple a suction head to a suction pipe and couple a delivery pipe, in combination with an oil separator, to a delivery head.

In regard to claim 4, Browne teaches a volumetric compressor (Fig. 1) with a suction head (270) comprising a coupling element (440) to a suction pipe (266) in combination with a motor unit (32), and the delivery head (262) comprises of a coupling element (262) to a delivery pipe (not labeled: Figure 1, between the cylinder head (180) and the outlet connection (262)) in combination with an oil separator (326).

Olofsson does not specifically teach that a suction head is coupled to a suction pipe, in combination with a motor unit, and a delivery head coupled to a delivery pipe. However, Browne teaches that a suction head is coupled to a suction pipe in combination with a motor unit,



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and a delivery head coupled to a delivery head. In order for compressors to function, the suction and delivery pipes, which carry the air or fluid, must be attached to the compressor body.

Moreover, a person of ordinary skill in the art would know that compressor function with some form of motor. Therefore, it is obvious to a person of ordinary skill in the art to couple a suction head to a suction pipe, in combination with a motor unit, and couple a delivery head with a delivery pipe.

In regard to claim 5, Browne teaches a volumetric compressor (Fig. 1) with a suction head (270) comprising a coupling element (440) to a suction pipe (266) in combination with a motor unit (32), and the delivery head (262) comprises of a coupling element (262) to a delivery pipe (not labeled: Figure 1, between the cylinder head (180) and the outlet connection (262)).

Olofsson does not specifically teach that a suction head is coupled to a suction pipe, in combination with a motor unit, and a delivery head coupled to a delivery pipe, in combination with an oil separator. However, Browne teaches that a suction head is coupled to a suction pipe in combination with a motor unit, and a delivery head coupled to a delivery head. In order for compressors to function, the suction and delivery pipes, which carry the air or fluid, must be attached to the compressor body. Moreover, a person of ordinary skill in the art would know that compressor function with some form of motor. Therefore, it is obvious to a person of ordinary skill in the art to couple a suction head to a suction pipe, in combination with a motor unit, and couple a delivery head with a delivery pipe, in combination with an oil separator.

In regard to claim 11, teaches a volumetric compressor that comprises fastening means (37, 39) suited to permanently connect first (35) and second (38) flange to a first (41) and second (36) counterflange, respectively.

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Browne teaches that the parts are connected to each other, however, Olofsson teaches more clearly that the flanges and counterflanges are connected to each other by fastening means. Moreover, it is inherent that flanges and counterflanges are connected to each other in a compressor by a fastening means. Without fastening means holding the parts together, a compressor would not be able to function.

9. Claim 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne (US Patent 2668004) and Olofsson (3407996) as applied to claims 1-5 and 11 above, and further in view of Maniscalco (US Patent 2168036).

In regard to claim 6, Maniscalco teaches a volumetric compressor (Fig. 3) in which the coupling element (42) for connection to a suction pipe (80) is constituted by a suction valve (42).

In regard to claim 8, Maniscalco teaches a volumetric compressor (Fig. 3) in which a coupling element (not labeled; valve between conduits (77, 78) and oil reservoir (28)) for connection to a delivery pipe (77, 78) is constituted by a delivery valve (not labeled; valve between conduits (77, 78) and oil reservoir (28)).

While Browne and Olofsson teach the method of claim 1, they do not specifically point out that the coupling elements that connect the suction head and suction pipe are valves. However, Maniscalco teaches a compressor with parts that are "conveniently detachable and replaceable for inspection and repair" (Maniscalco, Page 1, Line 34-35). The valve devices are "moveable mounted on cylinders" (Maniscalco, Page 1, Line 12). It is well known in the art that valves control flow from one part to another. Therefore, a person of ordinary skill in the art is aware to couple the suction and delivery heads with valves.

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In regard to claim 7, Maniscalco teaches a volumetric compressor (Fig. 3) in which a coupling element (42) for connection to a suction pipe (80) is constituted by a suction coupling (42). Since the valve couples two suction parts together, it is considered a suction coupling.

In regard to claim 9, Maniscalco teaches a volumetric compressor (Fig. 3) in which a coupling element (not labeled; valve between conduits (77, 78) and oil reservoir (28)) for connection to a delivery pipe (77, 78) is constituted by a delivery coupling (not labeled; valve between conduits (77, 78) and oil reservoir (28)). Since the valve couples two parts delivery together, it is considered a delivery coupling.

While Browne and Olofsson teach the method of claim 1, they do not specifically point out that the coupling elements that connect the suction head and suction pipe are coupled by suction and delivery couplings. However, Maniscalco teaches suction and delivery heads coupled by valves, which are considered suction and delivery couplings.

Claim 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne (US Patent 2668004) and Olofsson (3407996) as applied to claims 1-5 and 11 above, and further in view of Fraser et al (US Patent 4236876).

In regard to claim 10, Fraser et al states that the "objects of the present invention is to improve systems employing multiple hermetic or semi-hermetic motor-compressor units" (Fraser et al, Page 7, Line 8-10). Moreover, he states that "hermetic and semi-hermetic motor compressor units are well known to those skilled in the art" (Fraser et al, Col. 3, Row 23-24).

While Browne and Olofsson teach the method of claim 1, they do not specifically point out that a compressor is comprised of a semi-hermetic motor. However, Fraser et al teaches that it would be obvious to a person of ordinary skill in the art that compressors comprise of semi-

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hermetic motors. Therefore, a person of ordinary skill in the art would have included a semi-hermetic motor in a compressor.

In regard to claim 13, Fraser et al states that compressors are "generally driven by an electric motor" (Fraser et al, Col. 1, Row16).

While Browne and Olofsson teach the method of claim 1, they do not specifically point out that a compressor is comprised of an electric motor. However, Fraser et al teaches that it would be obvious to a person of ordinary skill in the art that compressors comprise of electric semi-hermetic motors. Therefore, a person of ordinary skill in the art would have included an electric motor in a compressor.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Browne (US Patent 2668004) and Olofsson (3407996) as applied to claims 1-5 and 11 above, and further in view of Voggenthaler (US Patent 3088660).

In regard to claim12, Voggenthaler teaches a volumetric compressor in which fastening means (128) and constituted by screws (128).

Browne and Olofsson teach the method of claim 1, but do not teach a fastening means by screws. However, Voggenthaler teaches a volumetric compressor in which fastening means constituted by screws. Screws are well known in the art as a fastening means. Thus, it would be obvious to a person skilled in the art to fasten parts with screws.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wilcox (US Patent 5220784), Soumerai (US Patent 2999629), and Christensen (US Patent 1796440) are pertinent because they teach compressors with interchangeable parts.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEANNIE AHN whose telephone number is 571-270-3225. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jackson can be reached on 571-272-4697. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A./  
Examiner, Art Unit 4137

11/5/2010

/Gary Jackson/  
Supervisory Patent Examiner  
Art Unit 4737  
November 8, 2010